STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 96524

TO: Lawrence E Crane **Location: cm1/8d14/8b19** **Art Unit: 1623** **Monday, June 16, 2003** **Case Serial Number: 610281**	**From: Mary Jane Ruhl** **Location: Biotech-Chem Library** **CM1-6A06** **Phone: 605-1155** **maryjane.ruhl@uspto.gov**

Search Notes

```
=> d que stat l9
L1             1 SEA FILE=REGISTRY ABB=ON  "N,O-CARBOXYMETHYLCHITOSAN"/CN
L2            67 SEA FILE=HCAPLUS ABB=ON  L1 OR N(W)O(W)(?CARBOXYMETHYLCHITOSAN?
                  OR ?CARBOXYMETHYL?(W)?CHITOSAN?)
L4             2 SEA FILE=HCAPLUS ABB=ON  L2 AND (?SUSTAIN?(W)?RELEAS? OR
                  ?DELAY?(W)?REACT?)
L5             3 SEA FILE=HCAPLUS ABB=ON  L2 AND (?ADHER? OR ?ATTACH?)
L6             5 SEA FILE=HCAPLUS ABB=ON  L4 OR L5
L8             1 SEA FILE=HCAPLUS ABB=ON  L2 AND ?SURG?(4A)?BARRIER?
L9             5 SEA FILE=HCAPLUS ABB=ON  L6 OR L8


=> d ibib abs hitrn l9 1-5

L9   ANSWER 1 OF 5  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2002:346793  HCAPLUS
DOCUMENT NUMBER:          138:78394
TITLE:                    N,O-Carboxymethylchitosan
                          as a viscoelastic agent in ophthalmic surgery
AUTHOR(S):                Elson, C.; Lee, T.; Curran, D.; Kydonieus, A.
CORPORATE SOURCE:         Chitogenics Ltd., Dartmouth, NS, B2Y 4M9, Can.
SOURCE:                   Proceedings - 28th International Symposium on
                          Controlled Release of Bioactive Materials and 4th
                          Consumer & Diversified Products Conference, San Diego,
                          CA, United States, June 23-27, 2001 (2001), Volume 1,
                          259-260.  Controlled Release Society: Minneapolis,
                          Minn.
                          CODEN: 69CNY8
DOCUMENT TYPE:            Conference
LANGUAGE:                 English
AB   The glycosaminoglycan, N,O-
     Carboxymethylchitosan (NOCC), is a lubricious, viscoelastic,
     bioresorbable polymer.  Its biocompatibility after anterior chamber
     injection and vitreal chamber injection in the rabbit eye has been
     previously presented.  The inhibition of attachment of
     fibroblasts in the presence of NOCC, an important desirable property in
     glaucoma filtering surgery, and the release of drugs used in the eye, from
     NOCC devices, were investigated in this work.  These preliminary data
     indicate that NOCC would be suitable for use as a viscoelastic aid in
     ophthalmic surgery, as a barrier to fibroblast
     recruitment (esp. in glaucoma filtering surgery) and as a controlled
     release device for certain drugs.
IT   107043-88-9, N,O-Carboxymethylchitosan
     RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES
     (Uses)
        (N,O-carboxymethylchitosan as a
        viscoelastic agent in ophthalmic surgery)
REFERENCE COUNT:          5     THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS
                                RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9   ANSWER 2 OF 5  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:         2000:841993  HCAPLUS
DOCUMENT NUMBER:          134:9403
TITLE:                    Adhesive N,O-carboxymethyl
                          chitosan coatings which inhibit
                          attachment of substrate-dependent cells and
                          proteins
INVENTOR(S):              Elson, Clive M.; Lee, Timothy D. G.
PATENT ASSIGNEE(S):       Chitogenics, Inc., USA
```

SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000071136	A1	20001130	WO 2000-US13693	20000518
W: CA, JP, MX				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1191937	A1	20020403	EP 2000-936059	20000518
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1999-315480 A 19990520
WO 2000-US13693 W 20000518

AB The present invention relates to a method of inhibiting cellular and protein **attachment** to substrates by applying a compn. contg. an effective amt. of **adherent N,O-carboxymethyl chitosan** (I) to a substrate such that cellular and protein **attachment** are prevented or greatly reduced. I hydrogels were adhesive on stomach and cecal tissues, and I in acidic citrate soln. displayed an increased bioadhesiveness.

IT **107043-88-9, N,O-Carboxymethylchitosan**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(adhesive carboxymethyl chitosan coatings inhibition of **attachment** of substrate-dependent cells and proteins)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:672320 HCAPLUS
DOCUMENT NUMBER: 134:168235
TITLE: **N,O-carboxymethylchitosan** as a mucoadhesive for vaginal delivery of levonorgestrel
AUTHOR(S): Elson, C.; Milne, A.; Curran, D.; Kydonieus, A.
CORPORATE SOURCE: Chitogenics Ltd., Dartmouth, NS, B2Y 4M9, Can.
SOURCE: Proceedings of the International Symposium on Controlled Release of Bioactive Materials (2000), 27th, 784-785
CODEN: PCRMEY; ISSN: 1022-0178
PUBLISHER: Controlled Release Society, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Vaginal creams contg. levonorgestrel and **N,O-carboxymethylchitosan** of different viscosities maintained low levels of the systemic hormones in vivo. The se formulation are strongly **adherent** and insol. at the acidity of the vagina.

IT **107043-88-9, N,O-Carboxymethylchitosan**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**carboxymethylchitosan** as mucoadhesive for vaginal delivery of levonorgestrel)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:559804 HCAPLUS

DOCUMENT NUMBER: 129:306441
TITLE: Development of an injectable **sustained-release** formulation of morphine: antinociceptive properties in rats
AUTHOR(S): Tasker, R. A. R.; Connell, B. J.; Ross, S. J.; Elson, C. M.
CORPORATE SOURCE: Dep. Anatomy & Physiology, Atlantic Veterinary College, UPEI, Charlottetown, C1A 4P3, Can.
SOURCE: Laboratory Animals (1998), 32(3), 270-275
CODEN: LBANAX; ISSN: 0023-6772
PUBLISHER: Royal Society of Medicine Press Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The antinociceptive actions of morphine incorporated into an injectable chitosan-based gel were investigated in rats. S.c. administration of 4.8 mg/kg morphine sulfate in a gel composed of **N,O-carboxymethylchitosan** (NOCC) and chitosan resulted in significant antinociception within 10 min that was maximal at 60 min and persisted for 6 h. In contrast, the same dose of morphine sulfate injected in sterile saline produced maximal responses at 30 min but only persisted for 2 h. NOCC/chitosan gel was easily injectable using a 22 gauge needle and appears stable in long-term storage. No local or systemic adverse effects other than morphine-induced sedation were obsd. either at the time of injection or during the subsequent 48 h. The authors conclude that gels composed of chitosan and chitosan derivs. are effective matrixes for **sustained-release** formulations of opioid analgesics capable of providing long-lasting antinociception.

IT **107043-88-9, N,O-Carboxymethylchitosan**
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antinociceptive properties of an injectable **sustained-release** formulation of morphine in rats)

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:714246 HCAPLUS
DOCUMENT NUMBER: 127:336558
TITLE: Pharmacokinetics of an injectable **sustained-release** formulation of morphine for use in dogs
AUTHOR(S): Tasker, R. A. R.; Ross, S. J.; Dohoo, S. E.; Elson, C. M.
CORPORATE SOURCE: Department of Anatomy & Physiology, Atlantic Veterinary College, UPEI, Charlottetown, C1 A 4P3, Can.
SOURCE: Journal of Veterinary Pharmacology and Therapeutics (1997), 20(5), 362-367
CODEN: JVPTD9; ISSN: 0140-7783
PUBLISHER: Blackwell
DOCUMENT TYPE: Journal
LANGUAGE: English

AB This study investigated the pharmacokinetics of morphine sulfate in an injectable chitosan-based gel. Gels were made from a combination of **N-O-carboxymethylchitosan** (NOCC) and chitosan and were easily injectable via a 22 gauge needle and appeared stable during long-term storage. Groups of 6 beagles were injected s.c. with 1.2 mg/kg morphine sulfate, either in sterile saline or in sterilized gels, and serial blood samples were withdrawn via a jugular catheter and later

analyzed for morphine concns. using RIA. Data were analyzed according to non-compartmental pharmacokinetics. NOCC-based gels resulted in significantly lower serum morphine concns. at 10 and 30 min following injection but significantly higher concns. at all points from 120 to 480 min post-injection. Dogs receiving morphine gel exhibited equiv. or lesser variability in serum morphine concns. than dogs receiving conventional morphine sulfate. Pharmacokinetic anal. revealed that morphine release from the gel matrix was significantly prolonged but fully bioavailable. There were no significant differences in either distribution (Vd) or terminal elimination (t1/2). Dogs experienced no adverse effects other than those normally assocd. with morphine administration at the time of injection but all dogs receiving the gel presented with an undefined stiffness the next day that resolved spontaneously within 48 h. Thus, carboxymethylchitosan-based gels hold considerable promise for the development of injectable **sustained -release** formulations of opioid analgesics.

IT **107043-88-9, N-O-Carboxymethylchitosan**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmacokinetics of injectable **sustained-release** formulation of morphine)

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=> d que stat l11
L1             1 SEA FILE=REGISTRY ABB=ON  "N,O-CARBOXYMETHYLCHITOSAN"/CN
L2            67 SEA FILE=HCAPLUS ABB=ON  L1 OR N(W)O(W)(?CARBOXYMETHYLCHITOSAN?
                  OR ?CARBOXYMETHYL?(W)?CHITOSAN?)
L4             2 SEA FILE=HCAPLUS ABB=ON  L2 AND (?SUSTAIN?(W)?RELEAS? OR
                  ?DELAY?(W)?REACT?)
L5             3 SEA FILE=HCAPLUS ABB=ON  L2 AND (?ADHER? OR ?ATTACH?)
L6             5 SEA FILE=HCAPLUS ABB=ON  L4 OR L5
L8             1 SEA FILE=HCAPLUS ABB=ON  L2 AND ?SURG?(4A)?BARRIER?
L9             5 SEA FILE=HCAPLUS ABB=ON  L6 OR L8
L10           10 SEA L9
L11            6 DUP REMOV L10 (4 DUPLICATES REMOVED)

=> d ibib abs l11 1-6

L11  ANSWER 1 OF 6  WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER:      2002-241173 [29]   WPIDS
DOC. NO. CPI:          C2002-072443
TITLE:                 New immunogen composition comprising an antigen, a
                       biocompatible polymer and a liquid vehicle, useful for
                       e.g. stimulating an immune response both systemically and
                       mucosally, or for altering reproductive cycle of the
                       host.
DERWENT CLASS:         A25 A96 B04 B07 D16
INVENTOR(S):           BLONDER, J P; COESHOTT, C M; RODELL, T C; ROSENTHAL, G J;
                       SCHAUER, W H
PATENT ASSIGNEE(S):    (BLON-I) BLONDER J P; (COES-I) COESHOTT C M; (RODE-I)
                       RODELL T C; (ROSE-I) ROSENTHAL G J; (SCHA-I) SCHAUER W H;
                       (RXKI-N) RXKINETIX INC
COUNTRY COUNT:         96
PATENT INFORMATION:

     PATENT NO   KIND DATE     WEEK      LA   PG
     ---------------------------------------------
     WO 2001098206 A1 20011227 (200229)* EN   67
        RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
            NL OA PT SD SE SL SZ TR TZ UG ZW
         W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
            DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ
            LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD
            SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
     US 2002025326 A1 20020228 (200229)
     AU 2001076831 A  20020102 (200230)
     EP 1315672    A1 20030604 (200337)  EN
         R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT
            RO SE SI TR

APPLICATION DETAILS:

     PATENT NO   KIND                  APPLICATION      DATE
     ---------------------------------------------------------
     WO 2001098206 A1                  WO 2001-US20096  20010622
     US 2002025326 A1 CIP of           US 2000-602654   20000622
                      Provisional      US 2001-278267P  20010323
                                       US 2001-888235   20010622
     AU 2001076831 A                   AU 2001-76831    20010622
     EP 1315672    A1                  EP 2001-954595   20010622
                                       WO 2001-US20096  20010622
```

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001076831	A	Based on	WO 200198206
EP 1315672	A1	Based on	WO 200198206

PRIORITY APPLN. INFO: US 2001-278267P 20010323; US 2000-602654 20000622; US 2001-888235 20010622

AN 2002-241173 [29] WPIDS

AB WO 200198206 A UPAB: 20020508

NOVELTY - A new immunogen composition for stimulating an immune response when administered to a host, comprising an antigen, a biocompatible polymer and a liquid vehicle, where the polymer interacts with the liquid vehicle to impart reverse thermal viscosity behavior to the composition, so that the viscosity of the composition increases when the temperature of the composition increases at a temperature range.

DETAILED DESCRIPTION - A new immunogen composition for stimulating an immune response when administered to a host, comprising an antigen, a biocompatible polymer and a liquid vehicle, where the polymer interacts with the liquid vehicle to impart reverse thermal viscosity behavior to the composition, so that the viscosity of the composition increases when the temperature of the composition increases at a temperature range. The composition further comprises an additive enhancing the immune response selected from a penetration enhancer and/or an adjuvant.

INDEPENDENT CLAIMS are also included for the following:

(1) delivery vehicle compositions (DC1) comprising a drug in an amount to produce a desired biological response in a host, a reverse-thermal gelation biocompatible polymer, a liquid vehicle in which the polymer is at least partially soluble at some temperature, and an additive selected from a penetration enhancer and/or an adjuvant;

(2) methods of packaging and storing the immunogen compositions;

(3) a method for delivering a drug to a host by administering a delivery vehicle composition comprising a drug, a reverse thermal gelation biocompatible polymer, liquid vehicle in which the polymer is at least partially soluble at some temperature, and an additive; and

(4) a method for delivering an antigen to a host to stimulate an immune response.

ACTIVITY - Immunostimulant; Antibacterial.

The IgG antibody response to intranasal immunization at week 0 followed by booster immunization at weeks 1 and 3. The IgG anti-TT responses of mice immunized and boosted with TT in PBS, TT in F127/chitosan and TT in F127/LPC were compared. Results of these studies indicate that the animals treated i.n. with TT in PBS failed to generate a significant anti-TT immune response, with a geometric mean titer of 159.6. The group immunized with TT in F127/LPC had a measurable nti-TT IgG response with a geometric mean titer of 544. The group immunized with TT in F127/chitosan clearly demonstrated a significant systemic anti-TT IgG response with a geometric mean titer of more than 5000. Studies indicate that intranasal immunization with TT in F127/chitosan induces a significant systemic IgG anti-TT antibody response.

MECHANISM OF ACTION - None given in source material.

USE - The composition is useful for stimulating an immune response both systemically and mucosally, for delivering an antigen (or drugs) to a host to treat or prevent an infectious disease, for altering mammalian reproductive cycle, for reducing or eliminating degradation of the antigen and lowing for a relatively slow sustained administration of antigens to the host.

Dwg.0/12

L11 ANSWER 2 OF 6 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-061295 [07] WPIDS
DOC. NO. CPI: C2001-016923
TITLE: Inhibiting **attachment** of substrate-dependent cells or a protein to a substrate using an **adherent N,O-carboxymethylchitosan** coating.
DERWENT CLASS: A11 A82 A96 B04 D16 D22 G02
INVENTOR(S): ELSON, C M; LEE, T D G
PATENT ASSIGNEE(S): (CHIT-N) CHITOGENICS INC
COUNTRY COUNT: 22
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000071136	A1	20001130	(200107)*	EN	40
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: CA JP MX					
EP 1191937	A1	20020403	(200230)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000071136	A1	WO 2000-US13693	20000518
EP 1191937	A1	EP 2000-936059	20000518
		WO 2000-US13693	20000518

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 1191937	A1	Based on	WO 200071136

PRIORITY APPLN. INFO: US 1999-315480 19990520
AN 2001-061295 [07] WPIDS
AB WO 200071136 A UPAB: 20011227
NOVELTY - Inhibiting **attachment** of substrate-dependent cells or a protein to a substrate comprises applying an **adherent N,O-carboxymethylchitosan** (I) coating to the substrate.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM for a method (1) obtaining a population of cells comprises:
(a) supplementing culture media with **adherent** (I);
(b) growing the cells in the supplemented media; and
(c) allowing the cells to grow or differentiate.
USE - For inhibiting **attachment** of substrate-dependent cells or a protein to a substrate, such as synthetic materials or mammalian tissues such as mammalian cells and tissue, non-mammalian cells or tissue, medical devices (preferably implantable and non-implantable devices comprising stents, catheters, contact lenses, breast implants, pacemakers or shunts), fermentation units, bioreactors or solid supports. The cells are useful for protein or antibody production (All claimed).
ADVANTAGE - (I) is a biocompatible substance that is **adherent** to substrates and inhibits cellular and protein **attachment**.
Dwg.0/13

L11 ANSWER 3 OF 6 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 1998384586 MEDLINE

DOCUMENT NUMBER: 98384586 PubMed ID: 9718474
TITLE: Development of an injectable **sustained-release** formulation of morphine: antinociceptive properties in rats.
AUTHOR: Tasker R A; Connell B J; Ross S J; Elson C M
CORPORATE SOURCE: Department of Anatomy & Physiology, Atlantic Veterinary College, Charlottetown, PEI, Canada.
SOURCE: LABORATORY ANIMALS, (1998 Jul) 32 (3) 270-5.
Journal code: 0112725. ISSN: 0023-6772.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199810
ENTRY DATE: Entered STN: 19990106
Last Updated on STN: 19990106
Entered Medline: 19981026

AB The antinociceptive actions of morphine incorporated into an injectable chitosan-based gel were investigated in rats. Subcutaneous administration of 4.8 mg/kg morphine sulphate in a gel composed of **N,O-carboxymethylchitosan** (NOCC) and chitosan resulted in significant antinociception within 10 min that was maximal at 60 min and persisted for 6 h. In contrast, the same dose of morphine sulphate injected in sterile saline produced maximal responses at 30 min but only persisted for 2 h. NOCC/chitosan gel was easily injectable using a 22 guage needle and appears stable in long-term storage. No local or systemic adverse effects other than morphine-induced sedation were observed either at the time of injection or during the subsequent 48 h. We conclude that gels composed of chitosan and chitosan derivatives are effective matrices for **sustained-release** formulations of opioid analgesics capable of providing long-lasting antinociception.

L11 ANSWER 4 OF 6 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 1998011331 MEDLINE
DOCUMENT NUMBER: 98011331 PubMed ID: 9350256
TITLE: Pharmacokinetics of an injectable **sustained-release** formulation of morphine for use in dogs.
AUTHOR: Tasker R A; Ross S J; Dohoo S E; Elson C M
CORPORATE SOURCE: Department of Anatomy & Physiology, Atlantic Veterinary College, UPEI, Charlottetown, Canada.
SOURCE: JOURNAL OF VETERINARY PHARMACOLOGY AND THERAPEUTICS, (1997 Oct) 20 (5) 362-7.
Journal code: 7910920. ISSN: 0140-7783.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199712
ENTRY DATE: Entered STN: 19980109
Last Updated on STN: 19980109
Entered Medline: 19971211

AB This study investigated the pharmacokinetics of morphine sulphate in an injectable chitosan-based gel. Gels were made from a combination of **N-O-carboxymethylchitosan** (NOCC) and chitosan and were easily injectable via a 22 gauge needle and appeared stable during long-term storage. Groups of six beagles were injected subcutaneously (s.c.) with 1.2 mg/kg morphine sulphate, either in sterile saline or in sterilized gels, and serial blood samples were withdrawn via a jugular catheter and later analysed for morphine concentrations using radioimmunoassay. Data were analysed according to non-compartmental

pharmacokinetics. NOCC-based gels resulted in significantly lower serum morphine concentrations at 10 and 30 min following injection but significantly higher concentrations at all points from 120 to 480 min post-injection. Dogs receiving morphine gel exhibited equivalent or lesser variability in serum morphine concentrations than dogs receiving conventional morphine sulphate. Pharmacokinetic analysis revealed that morphine release from the gel matrix was significantly prolonged but fully bioavailable. There were no significant differences in either distribution (Vd) or terminal elimination (t 1/2). Dogs experienced no adverse effects other than those normally associated with morphine administration at the time of injection but all dogs receiving the gel presented with an undefined stiffness the next day that resolved spontaneously within 48 h. We conclude that carboxymethylchitosan-based gels hold considerable promise for the development of injectable **sustained-release** formulations of opioid analgesics.

L11 ANSWER 5 OF 6 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1997-051629 [05] WPIDS
DOC. NO. CPI: C1997-017005
TITLE: Volatile semiochemical delivery system - comprises a negatively charged chitosan deriv. such as **N, O-carboxymethylchitosan**..
DERWENT CLASS: A97 C07
INVENTOR(S): CURRAN, D T; ELSON, C M; HENDERSON, S E
PATENT ASSIGNEE(S): (CHIT-N) CHITOGENICS INC
COUNTRY COUNT: 21
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9639824	A1	19961219	(199705)*	EN	24
RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: CA JP MX					
US 5645844	A	19970708	(199733)		10

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9639824	A1	WO 1996-US7250	19960520
US 5645844	A	US 1995-483996	19950607

PRIORITY APPLN. INFO: US 1995-483996 19950607
AN 1997-051629 [05] WPIDS
AB WO 9639824 A UPAB: 19970129
The following are claimed: (A) providing release of a volatile semiochemical (VS) in a controlled manner over an extended period, comprising: (a) providing a negatively charged chitosan deriv. semiochemical delivery system contg. a VS at a selected location, the system providing a **sustained release** of the VS material (which is entrapped in the system) over an extended period of time; and (b) allowing the system to release the VS into the atmosphere at a sustained rate over the extended period.

(B) compsn. for providing **sustained release** of a VS into the atmosphere at ambient temp., comprising a negatively charged chitosan deriv. semiochemical system (in which a semiochemical which has a substantial vapour pressure at ambient temp. is entrapped), the system being capable of releasing the semiochemical in a volatile form from the negatively charged chitosan delivery system at a sustained rate over an

extended period.
USE - The delivery system may be used to attract target insects (such as Cydia pomonella (codling moth), Rhagoletis pomonella (apple maggot) or Rhagoletis mendax (blueberry maggot)) to a selected location, or to disrupt normal insect mating behaviour. It may thus be used in, e.g., plant protection.
Dwg.0/4

ABEQ US 5645844 A UPAB: 19970813
A composition for providing **sustained release** of a volatile semiochemical into the atmosphere at ambient temperature; the composition comprising a **N,O-carboxymethyl-chitosan** (NOCC) semiochemical gel system having entrapped in it a semiochemical which has a substantial vapour pressure at an ambient temperature such that the semiochemical is released from the NOCC at a sustained rate over an extended time period.
Dwg.0/4

L11 ANSWER 6 OF 6 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1995-178191 [23] WPIDS
DOC. NO. CPI: C1995-082546
TITLE: N,O-carboxymethyl chitosonium carboxylate salts - which form high viscosity solns at low concns..
DERWENT CLASS: A11 A96 D21
INVENTOR(S): CURRAN, D T; ELSON, C M; HENDERSON, S E
PATENT ASSIGNEE(S): (NOVA-N) NOVA CHEM LTD; (CHIT-N) CHITOGENICS INC
COUNTRY COUNT: 20
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5412084	A	19950502	(199523)*		8
WO 9620221	A1	19960704	(199632)#	EN	18
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
W: AU CA JP					
AU 9518302	A	19960719	(199647)#		
JP 10511719	W	19981110	(199904)#		22

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 5412084	A	Cont of	US 1991-772405	19911009
			US 1993-9083	19930126
WO 9620221	A1		WO 1994-US14879	19941228
AU 9518302	A		WO 1994-US14879	19941228
			AU 1995-18302	19941228
JP 10511719	W		WO 1994-US14879	19941228
			JP 1996-520419	19941228

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9518302	A	Based on	WO 9620221
JP 10511719	W	Based on	WO 9620221

PRIORITY APPLN. INFO: US 1991-772405 19911009; US 1993-9083 19930126; WO 1994-US14879 19941228; AU 1995-18302 19941228; JP 1996-520419 19941228
AN 1995-178191 [23] WPIDS

AB US 5412084 A UPAB: 19950619
N,O-carboxymethyl-chitosonium carboxylate salts, in which 20-25% of the nitrogen atoms of the **N,O-carboxymethyl chitosan** in the polymer chain have carboxymethyl substits, are new.

The salts may be prepd by a claimed process comprising (a) suspending carboxymethyl chitosan, in particulate form, in an organic diluent-water mixt which does not dissolve nor render the suspended particles **adherent**, glutinous, gummy or sticky; (b) lowering the pH of the suspension below 7 by adding 0.2-0.8 moles of carboxylic acid (per mole of carboxymethyl chitosan monomer units), dissolved in water and/or an organic solvent, while adjusting the proportion of water in the suspension to (i) maintain the suspended particles separate and discrete and (ii) maintain the acid in soln; (c) stirring the heterogeneous suspension for 1 hr at room temp; (d) separating the solid particles from the suspension; (e) washing the solid particles with anhydrous alcohol to remove residual water, unreacted carboxylic acid and diluent; and (f) recovering and drying the desired prod.

USE - The salts may be used in cosmetics (eg sunscreen formulations) and other unspecified areas.

ADVANTAGE - The salts are white and form clear, colourless, odourless solns of high viscosity at low concns (eg 0.5% solns are gels).
Dwg.0/0

```
=> d que stat l14
L1             1 SEA FILE=REGISTRY ABB=ON  "N,O-CARBOXYMETHYLCHITOSAN"/CN
L2            67 SEA FILE=HCAPLUS ABB=ON  L1 OR N(W)O(W)(?CARBOXYMETHYLCHITOSAN?
                  OR ?CARBOXYMETHYL?(W)?CHITOSAN?)
L12            0 SEA FILE=HCAPLUS ABB=ON  L2 AND ?MEDICAL?(W)(?DEVIC? OR
                  ?EQUIP?)
L13            2 SEA L12
L14            2 DUP REMOV L13 (0 DUPLICATES REMOVED)

=> d ibib abs l14 1-2

L14  ANSWER 1 OF 2  WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER:     2001-256352 [26]   WPIDS
CROSS REFERENCE:      1992-216795 [26]; 1994-302683 [37]; 1996-300272 [30];
                      1997-087008 [08]; 2000-618127 [54]
DOC. NO. NON-CPI:     N2001-182713
DOC. NO. CPI:         C2001-077142
TITLE:                Localized sustained delivery of supplements to promote
                      (re)generation of bone and/or cartilage by preparing and
                      applying biocompatible supplemented tissue sealant
                      composition.
DERWENT CLASS:        B04 B07 D22 P32
INVENTOR(S):          DROHAN, W N; HAUDENSCHILD, C; LASA, C I; LIAU, G;
                      MACPHEE, M J
PATENT ASSIGNEE(S):   (AMNA-N) AMERICAN NAT RED CROSS
COUNTRY COUNT:        1
PATENT INFORMATION:

     PATENT NO  KIND DATE     WEEK      LA   PG
     ---------------------------------------
     US 6197325    B1 20010306 (200126)*      79

APPLICATION DETAILS:

     PATENT NO   KIND                    APPLICATION      DATE
     ------------------------------------------------------------
     US 6197325    B1 CIP of             US 1990-618419   19901127
                      CIP of             US 1991-798919   19911127
                      Cont of            US 1993-31164    19930312
                      CIP of             US 1994-328552   19941025
                      CIP of             US 1994-351006   19941207
                                         US 1995-474084   19950607


PRIORITY APPLN. INFO: US 1995-474084   19950607; US 1990-618419
                      19901127; US 1991-798919   19911127; US
                      1993-31164    19930312; US 1994-328552
                      19941025; US 1994-351006   19941207
AN   2001-256352 [26]   WPIDS
CR   1992-216795 [26]; 1994-302683 [37]; 1996-300272 [30]; 1997-087008 [08];
     2000-618127 [54]
AB   US   6197325 B UPAB: 20011121
     NOVELTY - Localized sustained delivery of supplements to promote
     (re)generation of bone and/or cartilage for longer than according to
     simple diffusion kinetics comprises preparing a biocompatible supplemented
     tissue sealant composition and applying it to a site needing newly formed
     bone and/or cartilage under conditions suitable for inducing formation of
     a fibrin matrix.
          DETAILED DESCRIPTION - Localized sustained delivery of supplements to
     promote generation or regeneration of bone and/or cartilage comprises:
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(a) preparing a biocompatible supplemented tissue sealant composition comprising supplement(s) comprising cytotoxin or cell proliferation inhibiting compound, osteogenic compound, osteoconductive compound, cartilage inducing compound, oligonucleotide, polynucleotide, a compound that inhibits the differentiation cells involved in the formation or metabolism of bone, a compound that induces the differentiation of cells involved in the formation or metabolism of bone and/or a compound that prevents resorption of bone in amount(s) that promote generation or regeneration of bone and/or cartilage and fibrinogen or its derivatives or metabolites comprising fibrin I and II in amounts that form a fibrin matrix in the presence of thrombin and calcium (II) ions and water and

(b) applying the composition to a site needing newly formed bone and/or cartilage under conditions suitable for inducing formation of a fibrin matrix, which provides a scaffold that determines the shape and location of the newly formed bone and/or cartilage. The amount of supplement is greater than the amount that is soluble in the fibrin matrix and the sustained delivery is for a period greater than the period obtained according to simple diffusion kinetics.

ACTIVITY - Osteopathic; vulnerary.

MECHANISM OF ACTION - Cell proliferation inhibitor; cartilage inducer; fibroblast growth factor; platelet-derived growth factor; insulin-binding growth factor; epidermal growth factor; transforming growth factor; bone growth factor; bone morphogenetic growth factor; collagen growth factor; heparin-binding growth factor; cartilage-inducing factor; osteoid-inducing factor.

USE - Used for localized sustained delivery of supplements to promote (re)generation of bone and/or cartilage (claimed), promote wound healing, promote the endothelialization of vascular prostheses, promote the proliferation and/or differentiation of animal cells and promote the localized delivery of drug(s) or growth factors. The method can be used to provide a simple-to-use, fast-acting, field-ready fibrin bandage for applying a tissue sealing composition to wounded tissue.

ADVANTAGE - The method provides sustained delivery for periods longer than those obtained according to simple diffusion kinetics. The sealants used do not inhibit full thickness skin wound healing and have many of the characteristics of an ideal biodegradable carrier, so that they can be formulated to contain only human proteins thus eliminating or minimizing immunogenicity probes and foreign body reactions, their administration is versatile, and their removal from host tissues is not required because they are degraded by the host's own natural fibrinolytic system. The method allows effective delivery of growth factors and/or drugs for prolonged periods of time to internal or external wounds, allowing prolonged contact between the growth factor and its receptors, and the production of strong biological effects. Animal cells can migrate into and through, and grow in the tissue sealants to aid engraftment of the cells to neighboring tissues and prostheses. Because of the initial liquid nature, the sealants can cover surfaces more thoroughly and completely than many prior art delivery systems, an advantage for coating biomaterials and in the endothelialization of vascular prostheses. The sealants can be molded and thus can be made into desired shapes. Antibiotic supplements increase the longevity and long-term stability of fibrin glues, allowing localized, long-term delivery of drug and/or growth factors, even after the stabilizing drug has substantially left the sealant. The method allows site-directed angiogenesis to incur in vivo promoted by the sealant. The method uses sealant components that can be formulated into simple-to-use, fast-acting field dressings, making it possible to control bleeding from hemorrhaging trauma wounds increase the number of lives saved and providing easy-to-use first-aid treatments that will, in emergency or disaster situations, allowing untrained individuals to treat traumatic injuries to control hemorrhage until medical assistance

is available.
Dwg.0/42

L14 ANSWER 2 OF 2 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-061295 [07] WPIDS
DOC. NO. CPI: C2001-016923
TITLE: Inhibiting attachment of substrate-dependent cells or a protein to a substrate using an adherent **N, O-carboxymethylchitosan** coating.
DERWENT CLASS: A11 A82 A96 B04 D16 D22 G02
INVENTOR(S): ELSON, C M; LEE, T D G
PATENT ASSIGNEE(S): (CHIT-N) CHITOGENICS INC
COUNTRY COUNT: 22
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000071136	A1	20001130	(200107)*	EN	40
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: CA JP MX					
EP 1191937	A1	20020403	(200230)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000071136	A1	WO 2000-US13693	20000518
EP 1191937	A1	EP 2000-936059	20000518
		WO 2000-US13693	20000518

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 1191937	A1	Based on	WO 200071136

PRIORITY APPLN. INFO: US 1999-315480 19990520
AN 2001-061295 [07] WPIDS
AB WO 200071136 A UPAB: 20011227
NOVELTY - Inhibiting attachment of substrate-dependent cells or a protein to a substrate comprises applying an adherent **N,O-carboxymethylchitosan** (I) coating to the substrate.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM for a method (1) obtaining a population of cells comprises:
(a) supplementing culture media with adherent (I);
(b) growing the cells in the supplemented media; and
(c) allowing the cells to grow or differentiate.
USE - For inhibiting attachment of substrate-dependent cells or a protein to a substrate, such as synthetic materials or mammalian tissues such as mammalian cells and tissue, non-mammalian cells or tissue, **medical devices** (preferably implantable and non-implantable devices comprising stents, catheters, contact lenses, breast implants, pacemakers or shunts), fermentation units, bioreactors or solid supports. The cells are useful for protein or antibody production (All claimed).
ADVANTAGE - (I) is a biocompatible substance that is adherent to substrates and inhibits cellular and protein attachment.
Dwg.0/13

(A)- Per search request form


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=> d his ful

     (FILE 'HOME' ENTERED AT 10:05:52 ON 16 JUN 2003)


     FILE 'REGISTRY' ENTERED AT 11:02:03 ON 16 JUN 2003
               E N,O-CARBOXYMETHYLCHITOSAN/CN
L1             1 SEA ABB=ON  "N,O-CARBOXYMETHYLCHITOSAN"/CN

     FILE 'HCAPLUS' ENTERED AT 11:02:39 ON 16 JUN 2003
L2            67 SEA ABB=ON  L1 OR N(W)O(W)(?CARBOXYMETHYLCHITOSAN? OR ?CARBOXYM
                  ETHYL?(W)?CHITOSAN?)
L3             2 SEA ABB=ON  L2 AND ?SUSTAIN?(W)?RELEAS?
L4             2 SEA ABB=ON  L2 AND (?SUSTAIN?(W)?RELEAS? OR ?DELAY?(W)?REACT?)
L5             3 SEA ABB=ON  L2 AND (?ADHER? OR ?ATTACH?)
L6             5 SEA ABB=ON  L4 OR L5
L7             0 SEA ABB=ON  L2 AND ?SURG?(W)?ADHES?(W)?BARRIER?
L8             1 SEA ABB=ON  L2 AND ?SURG?(4A)?BARRIER?
L9             5 SEA ABB=ON  L6 OR L8

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO' ENTERED AT
     11:14:19 ON 16 JUN 2003
L10           10 SEA ABB=ON  L9
L11            6 DUP REMOV L10 (4 DUPLICATES REMOVED)

     FILE 'HCAPLUS' ENTERED AT 11:27:58 ON 16 JUN 2003
L12            0 SEA ABB=ON  L2 AND ?MEDICAL?(W)(?DEVIC? OR ?EQUIP?)

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO' ENTERED AT
     11:28:45 ON 16 JUN 2003
L13            2 SEA ABB=ON  L12
L14            2 DUP REMOV L13 (0 DUPLICATES REMOVED)
```

Claims 25-26 - see orange tab

Claims 1-17 & 25-26, 5 hits in CAPlus

Claims 1-17 & 0 hits in other db's, 0 for claims 25-26

Zero in CA Plus

2 in other db's

Claims 18-24 see orange tab

Eric, Pls let me know if you want me to do any further work on this.

Cheers!

MJ
605-1155

(B) - per telephone conversation re: materials


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=> d his ful

     (FILE 'HOME' ENTERED AT 13:36:32 ON 16 JUN 2003)

     FILE 'REGISTRY' ENTERED AT 13:36:43 ON 16 JUN 2003
                 E N,O-CARBOXYMETHYLCHITOSAN/CN
L1             1 SEA ABB=ON  "N,O-CARBOXYMETHYLCHITOSAN"/CN

     FILE 'HCAPLUS' ENTERED AT 13:37:03 ON 16 JUN 2003
L2            67 SEA ABB=ON  L1 OR N(W)O(W)(?CARBOXYMETHYLCHITOSAN? OR ?CARBOXYM
                 ETHYL?(W)?CHITOSAN?)
L3           702 SEA ABB=ON  L2 OR NOC
                                        ---- NOC seems to be a bit too broad!

     FILE 'REGISTRY' ENTERED AT 13:38:26 ON 16 JUN 2003
                 E RUBBER/CN
L4             1 SEA ABB=ON  RUBBER/CN
                 E PLASTIC/CN
                 E PLASTICS/CN
                 E RESIN/CN
                 E RESINS/CN
                 E POLYMERS/CN
                 E FIBRIN GLUE/CN
L5             1 SEA ABB=ON  "FIBRIN SEALANT"/CN

     FILE 'HCAPLUS' ENTERED AT 13:39:58 ON 16 JUN 2003
L6       2680263 SEA ABB=ON  L4 OR L5 OR ?RUBBER? OR ?PLASTIC? OR ?RESIN? OR
                 ?POLYMER? OR (?TISSUE? OR ?FIBRIN?)(W)(?SEALANT OR ?GLUE?)
L7            23 SEA ABB=ON  L2 AND L6      23 cits from CA files
                 D IBIB ABS HITRN L7 1-23

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO' ENTERED AT
     13:42:40 ON 16 JUN 2003
L8            11 SEA ABB=ON  L7
L9             9 DUP REMOV L8 (2 DUPLICATES REMOVED)   9 cits from "other db's"
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=> d que stat l7
L1             1 SEA FILE=REGISTRY ABB=ON  "N,O-CARBOXYMETHYLCHITOSAN"/CN
L2            67 SEA FILE=HCAPLUS ABB=ON  L1 OR N(W)O(W)(?CARBOXYMETHYLCHITOSAN?
                  OR ?CARBOXYMETHYL?(W)?CHITOSAN?)
L4             1 SEA FILE=REGISTRY ABB=ON  RUBBER/CN
L5             1 SEA FILE=REGISTRY ABB=ON  "FIBRIN SEALANT"/CN
L6       2680263 SEA FILE=HCAPLUS ABB=ON  L4 OR L5 OR ?RUBBER? OR ?PLASTIC? OR
                  ?RESIN? OR ?POLYMER? OR (?TISSUE? OR ?FIBRIN?)(W)(?SEALANT OR
                  ?GLUE?)
L7            23 SEA FILE=HCAPLUS ABB=ON  L2 AND L6
=> d ibib abs hitrn l7 1-23

L7   ANSWER 1 OF 23  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:        2003:2330  HCAPLUS
DOCUMENT NUMBER:         138:370568
TITLE:                   Synthesis of crosslinked N, O-(
                         carboxymethyl)chitosan and chelating
                         behavior with Cu (II)
AUTHOR(S):               Cheng, Fa; Li, Hou-Ping; Wei, Yu-ping; Feng, Jian-xin;
                         Li, Gui-feng
CORPORATE SOURCE:        School of Science, Tianjin University, Tianjin,
                         300072, Peop. Rep. China
SOURCE:                  Tianjin Daxue Xuebao, Ziran Kexue Yu Gongcheng
                         Jishuban (2002), 35(3), 362-366
                         CODEN: TDXZAE
PUBLISHER:               Tianjin Daxue Xuebao Bianjibu
DOCUMENT TYPE:           Journal
LANGUAGE:                Chinese
AB   N,O-(carboxymethyl)chitosans were
     first chelated with Cu2+, and then crosslinked with glutaraldehyde.  After
     removal of Cu2+, from the obtained product, a new crosslinked N,
     O-(carboxymethyl) chitosan resin was
     produced.  The chelating capacities of the resin were studied
     and the changes of its surfaces before and after chelating were obsd. by
     SEM.  The resin has excellent chelating ability with Cu2+ and
     the chelating capacity can reach 140 mg/g resin even when the
     initial concn. of Cu2+ is low to 2.4133 .times. 10-4 mol/L, which is about
     5 times of the satd. absorption of chitosan.  The resin can be
     regenerated and used repeatedly.

L7   ANSWER 2 OF 23  HCAPLUS  COPYRIGHT 2003 ACS
ACCESSION NUMBER:        2002:964167  HCAPLUS
DOCUMENT NUMBER:         138:29143
TITLE:                   Ophthalmic compositions comprising chitosan and
                         ketotifen for the treatment of ocular allergic
                         conditions
INVENTOR(S):             Wong, Michelle Pik-Han; Sou, Mary; Yen, Shau-Fong;
                         Minick, Kasey Jon; Bizec, Jean-Claude
PATENT ASSIGNEE(S):      Novartis AG, Switz.; Novartis-Erfindungen
                         Verwaltungsgesellschaft m.b.H.
SOURCE:                  PCT Int. Appl., 27 pp.
                         CODEN: PIXXD2
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ----------------  ----  --------      ---------------  --------
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WO 2002100376 A1 20021219 WO 2002-EP6280 20020607
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LT, LU, LV, MA, MD, MK, MN, MX, NO, NZ, OM, PH, PL, PT, RO, RU, SE, SG, SI, SK, TJ, TM, TN, TR, TT, UA, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR
US 2003031718 A1 20030213 US 2002-164756 20020607
PRIORITY APPLN. INFO.: US 2001-297068P P 20010608

AB Disclosed is a once-a-day ophthalmic drug compn., in particular ketotifen, comprising a **polymer** comprising chitosan and a carrier, and a method to treat an ocular allergy comprising administering a once-a-day ophthalmic ketotifen compn. comprising chitosan to the eye of a mammal. A compn. contained ketotifen H fumarate 0.0345%, chitosan 0.5, benzalkonium chloride 0.005, mannitol 4.5% wt./vol. Na bicarbonate to pH 6.0, and water for injection to 100%.

IT **107043-88-9, N,O-Carboxymethyl chitosan**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(ophthalmic compns. comprising chitosan and ketotifen for the treatment of ocular allergic conditions)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:346793 HCAPLUS
DOCUMENT NUMBER: 138:78394
TITLE: **N,O-Carboxymethylchitosan** as a viscoelastic agent in ophthalmic surgery
AUTHOR(S): Elson, C.; Lee, T.; Curran, D.; Kydonieus, A.
CORPORATE SOURCE: Chitogenics Ltd., Dartmouth, NS, B2Y 4M9, Can.
SOURCE: Proceedings - 28th International Symposium on Controlled Release of Bioactive Materials and 4th Consumer & Diversified Products Conference, San Diego, CA, United States, June 23-27, 2001 (2001), Volume 1, 259-260. Controlled Release Society: Minneapolis, Minn.
CODEN: 69CNY8
DOCUMENT TYPE: Conference
LANGUAGE: English

AB The glycosaminoglycan, **N,O-Carboxymethylchitosan** (NOCC), is a lubricious, viscoelastic, bioresorbable **polymer**. Its biocompatibility after anterior chamber injection and vitreal chamber injection in the rabbit eye has been previously presented. The inhibition of attachment of fibroblasts in the presence of NOCC, an important desirable property in glaucoma filtering surgery, and the release of drugs used in the eye, from NOCC devices, were investigated in this work. These preliminary data indicate that NOCC would be suitable for use as a viscoelastic aid in ophthalmic surgery, as a barrier to fibroblast recruitment (esp. in glaucoma filtering surgery) and as a controlled release device for certain drugs.

IT **107043-88-9, N,O-Carboxymethylchitosan**
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**N,O-carboxymethylchitosan** as a viscoelastic agent in ophthalmic surgery)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:246247 HCAPLUS
DOCUMENT NUMBER: 137:34400
TITLE: Manufacture and properties of chitosan/**N,O-carboxymethylated chitosan** /viscose rayon antibacterial fibers
AUTHOR(S): Li, Zhi; Liu, Xiaofei; Zhuang, Xupin; Guan, Yunlin; Yao, Kangde
CORPORATE SOURCE: Research Institute of Polymeric Materials, Tianjin University, Tianjin, 300072, Peop. Rep. China
SOURCE: Journal of Applied Polymer Science (2002), 84(11), 2049-2059
CODEN: JAPNAB; ISSN: 0021-8995
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Chitosan/**N,O-carboxymethylated chitosan**/viscose rayon antibacterial fibers (CNVFs) were prepd. by blending chitosan emulsion, **N,O-carboxymethylated chitosan** (N,O-CMC), and viscose rayon together for spinning. The fibers were characterized by transmission electron microscopy (TEM), differential scanning calorimetry (DSC), and thermal gravimetric anal. (TGA). TEM micrographs showed that chitosan microparticles dispersed uniformly along the oriented direction with the mean size ranging from 0.1 to 0.5 .mu.m. DSC spectra of these fibers showed that no significant change in thermal property was caused by adding chitosan and N,O-CMC into the viscose rayon. TGA spectra showed that the good moisture retentivity was not affected by the addn. of chitosan and N,O-CMC. Both DSC and TGA suggested that the decompg. tendency of the viscose rayon above 250.degree.C seemed to be weakened by the chitosan. The fibers' mech. properties and antibacterial activities against Escherichia coli, Staphylococcus aureus, and Candida albicans were measured. Although the addn. of chitosan slightly reduced the mech. properties, the antibacterial fibers' properties were obtained and were found to meet com. requirements. CNVF exhibited excellent antibacterial activity against E. coli, S. aureus, and C. albicans. The antibacterial activity increased along with the chitosan concn. and was not greatly affected by 15 washings in water. SEM was used to observe the morphol. of bacteria cells incubated together with the antibacterial or ref. fibers. SEM micrographs demonstrated that greater amts. of bacteria could be adsorbed by the antibacterial fiber than by the ref. fiber; these bacteria were overwhelmingly destroyed and killed.
REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:935520 HCAPLUS
DOCUMENT NUMBER: 136:68695
TITLE: Delivery vehicle composition and methods for delivering antigens and other drugs
INVENTOR(S): Rosenthal, Gary J.; Rodell, Timothy C.; Blonder, Joan P.; Coeshott, Claire M.; Schauer, Wren H.
PATENT ASSIGNEE(S): Rxkinetix, Inc., USA
SOURCE: PCT Int. Appl., 67 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001098206	A1	20011227	WO 2001-US20096	20010622
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1315672	A1	20030604	EP 2001-954595	20010622
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				

PRIORITY APPLN. INFO.: US 2000-602654 A 20000622
US 2001-278267P P 20010323
WO 2001-US20096 W 20010622

AB The present invention provides an immunogen compn. and methods for using the same for the development of immunity, and particularly at mucosal sites in a mammal, thereby providing immunity at the site of entry for many major pathogenic organisms and also systemic immunity. The immunogen compn. includes an antigen, a biocompatible **polymer**, and a liq. vehicle, with the biocompatible **polymer** and liq. vehicle being present in such proportions and interacting in such a way that the immunogen compn. exhibits reverse-thermal viscosity behavior. A delivery vehicle compn. including a drug other than an antigen is also provided. Methods are provided for delivering the compns. of the invention to a host.

IT **107043-88-9, N,O-Carboxymethyl chitosan**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(delivery vehicle compn. and methods for delivering antigens and other drugs)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:279702 HCAPLUS
DOCUMENT NUMBER: 134:267656
TITLE: Antibacterial viscose fibers and manufacture methods therefor
INVENTOR(S): Guan, Yunlin; Liu, Xiaofei; Yao, Kangde
PATENT ASSIGNEE(S): Tianjin University, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 5 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC.. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1266922	A	20000920	CN 2000-100636	20000125

PRIORITY APPLN. INFO.: CN 2000-100636 20000125

AB Antibacterial agents contain water dispersions of radiation-degraded chitosan and chitosan derivs. such as the mixts. of N-formylchitosan, carboxymethylchitosan, hydroxyethylchitosan, N-alkylchitosan, and quaternary ammonium salts thereof. Chitosan is degraded with Co 60 to

mol. wt. 20,000-600,000 and the suspension of chitosan is pulverized with ultrasound.

IT **107043-88-9, N,O-Carboxymethylchitosan**
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(antibacterial viscose fibers contg. chitosan and chitosan derivs.)

L7 ANSWER 7 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:161411 HCAPLUS
DOCUMENT NUMBER: 134:212777
TITLE: Methods for production of Supplemented and unsupplemented tissue sealants
INVENTOR(S): MacPhee, Martin James; Drohan, William Nash; Lasa, Carlos I., Jr.; Liau, Gene; Haudenschild, Christian
PATENT ASSIGNEE(S): The American National Red Cross, USA
SOURCE: U.S., 79 pp., Cont.-in-part of U.S. Ser. No. 351,006, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 8
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6197325	B1	20010306	US 1995-474084	19950607
EP 1142581	A2	20011010	EP 2001-113651	19911127
EP 1142581	A3	20020911		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
AU 9884192	A1	19981105	AU 1998-84192	19980911
AU 733471	B2	20010517		

PRIORITY APPLN. INFO.:

US 1990-618419	B2	19901127
US 1991-798919	B2	19911127
US 1993-31164	B1	19930312
US 1994-328552	B2	19941025
US 1994-351006	B2	19941207
EP 1992-901268	A3	19911127
AU 1994-63648	A3	19940314

AB This invention provides methods for the localized delivery of supplemented tissue sealants, wherein the supplemented tissue sealants comprise at least 1 compn. which is selected from 1 or more antibodies, analgesics, anticoagulants, anti-inflammatory agents, antimicrobial compns., antiproliferatives, cytokines, cytotoxins, drugs, growth factors, interferons, hormones, lipids, demineralized bone or bone morphogenetic proteins, cartilage inducing factors, oligonucleotides **polymers**, polysaccharides, polypeptides, protease inhibitors, vasoconstrictors or vasodilators, vitamins, minerals, stabilizers, etc. Further provided are methods of using the site-specific supplemented tissue sealants, including prepn. of a biomaterial. The delivery of TGF-.beta.2 from **fibrin sealant** by diffusion can be sustained in low amts. The release of TGF-.beta.2 from **fibrin sealant** requires dissoln. of the fibrin clot by plasmin indicating that in vivo delivery of TGF-.beta.2 from the supplemented **tissue sealant** compn. would be mediated by resoln. of the fibrin clot. Thus, the mechanism of delivery from the TGF-.beta.2 supplemented **tissue sealant** compn. is readily distinguished from simple diffusion kinetics.

IT **107043-88-9, N,O-Carboxymethylchitosan**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(methods for prodn. of supplemented and unsupplemented tissue sealants)

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 8 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:37642 HCAPLUS
DOCUMENT NUMBER: 134:190608
TITLE: Antibacterial action of chitosan and carboxymethylated chitosan
AUTHOR(S): Liu, Xiao Fei; Guan, Yun Lin; Yang, Dong Zhi; Li, Zhi; De Yao, Kang
CORPORATE SOURCE: Research Institute of Polymeric Materials, Tianjin University, Tianjin, 300072, Peop. Rep. China
SOURCE: Journal of Applied Polymer Science (2000), Volume Date 2001, 79(7), 1324-1335
CODEN: JAPNAB; ISSN: 0021-8995
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A series of chitosan with different mol. wts. obtained by .gamma.-irradn. **depolymn.** and another series of deacetylated chitosan were synthesized. Several **N,O-carboxymethylated chitosan** and O-carboxymethylated chitosan were also produced. The samples were characterized by Fourier transform IR spectroscopy (FTIR). Their antibacterial activities against E. coli were explored by the optical d. method. The antibacterial activity of chitosan is influenced by its mol. wt., degree of deacetylation, concn. in soln., and pH of the medium. Antibacterial activities were also found to be increased in the order of **N,O-carboxymethylated chitosan**, chitosan, and O-carboxymethylated chitosan. Fluorescence of the FITC (fluorescein isothiocyanate)-labeled chitosan oligomers at the inside of the E. coli cell was obsd. by a confocal laser scanning microscope. The antibacterial activity of chitosan oligomers seems to be caused mainly by the inhibition of the transcription from DNA.
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:37614 HCAPLUS
DOCUMENT NUMBER: 134:239231
TITLE: Chelation of chitosan derivatives with zinc ions. II. Association complexes of Zn2+ onto O,N-carboxymethyl chitosan
AUTHOR(S): Tang, Lie-Gui; Hon, David N.-S.
CORPORATE SOURCE: School of Natural Resources, Clemson University, Clemson, SC, 29634-1003, USA
SOURCE: Journal of Applied Polymer Science (2000), Volume Date 2001, 79(8), 1476-1485
CODEN: JAPNAB; ISSN: 0021-8995
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The chelation of zinc ions with O,N-carboxymethyl chitosan (I) was characterized using FTIR spectrophotometry and SEM. From the FTIR spectra, little change in the absorption intensities and frequencies at 3300-3600 cm-1 of Zn2+-I chelated specimens suggested that -OH and -NH2 groups were not participating in the chelation reaction. The absence of absorption bands at 1755-1700 cm-1 suggested that the carboxyl group C=O was not ionized, and the ionized C=O bands were obsd. at 1400-1600 cm-1 for chelated specimens. Thus, the chelation sites occurred at the carboxyl group rather than at the -OH and NH2 groups. Also, it was confirmed that water-insol. chelates, which were formed through the Zn-O

and Zn-N bonds, presented a tetrahedral structure. The water-sol. complexes where Zn ions connected with O of C=O and water mols. were only caused by electron attraction. Formation of different microstructures on the surfaces, as revealed by SEM, provided evidence to distinguish different chelating mechanisms between water-sol. and water-insol. complexes.

IT **107043-88-9**
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(zinc ion chelation with chitosan derivs. forming assocn. complexes with O,N-carboxymethyl chitosan)

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 10 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:793616 HCAPLUS
TITLE: Moisture retention and antimicrobial activity in relation to structure of **N,O-carboxymethyl chitosan.**
AUTHOR(S): Du, Yumin; Chen, Lingyun
CORPORATE SOURCE: Department of Environmental Science, Wuhan University, Wuhan, 430072, Peop. Rep. China
SOURCE: Abstracts of Papers - American Chemical Society (2000) 220th, CARB-069
CODEN: ACSRAL; ISSN: 0065-7727
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal; Meeting Abstract
LANGUAGE: English

AB A series of **N,O-carboxymethylchitosans** were successfully prepd. from chitosans of various mol. wt. Their positions of substituted and degree of substitution were estd. by potentiometric titrn., IR and 13C-NMR spectrum, mol. wt. detd. by means of viscometry and GPC-LS. Their moisture-absorption, moisture-retention properties and antimicrobial ability were studied. The results indicated that the degree of substitution increased significantly with the mol. wt. of chitosan going down , and the carboxymethylation followed the order of reactivity:OH-6>OH-3>NH2 .Carboxymethylation also brought about degrdn. of the **polymer** in some way. The moisture-absorption and moisture-retention properties of **N,O-carboxymethylchitosans** were found quite similar to those of hyaluronic acid, lower mol. wt. resulted in higher moisture-absorption and higher degree of substitution resulted in better moisture-retention. The **N,O-carboxymethylchitosans** with mol. wt. range from 100 thousand to 10 thousand and degree of substition higher than 1.0 had better moisture-absorption and moisture-retention than hyaluronic acid.The antimicrobial test demonstrated that antimicrobial capacity of **N,O-carboxymethylchitosan** was effected by its mol. wt. remarkably, the lower the mol. wt. the better the antimicrobial ability. When mol. weightwas lower than 5000,**N,O-carboxymethyl chitosan** had strong antimicrobial action.

L7 ANSWER 11 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:723088 HCAPLUS
DOCUMENT NUMBER: 131:337866
TITLE: Methods for **polymeric** microsphere production
INVENTOR(S): Amsden, Brian G.; Liggins, Richard Tom
PATENT ASSIGNEE(S): Angiotech Pharmaceuticals, Inc., Can.
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9957176	A1	19991111	WO 1999-CA367	19990506
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6224794	B1	20010501	US 1999-305857	19990505
AU 9935140	A1	19991123	AU 1999-35140	19990506

PRIORITY APPLN. INFO.: US 1998-84508P P 19980506
WO 1999-CA367 W 19990506

AB A process for forming microspheres includes passing a first compn. contg. **polymer** and solvent through an orifice and directly into a second compn. contg. water and a microsphere-stabilizing agent, under at least one of conditions (a) and (b), wherein (a) the first compn. flows through a first conduit along a first path and exits the first conduit at the orifice, the second compn. flows through a second conduit along a second path in an upstream to downstream direction, the first conduit is connected to the second conduit and terminates at the orifice, and the first and second paths being oriented at an angle .theta. relative to each other, wherein 0.degree. < .theta. < 180.degree.; (b) the first compn. being at a first temp. and including a solvent having a b.p., the second compn. being at a second temp., the b.p. of the solvent being less than the second temp.; and forming a compn. including water and microspheres, the microspheres being formed, at least in part, by the **polymer**. Such microspheres are suitable for use in the delivery of bioactive agents for animal, aquarian and human use, as a means of radio-imaging tissue, as well as for the controlled release of agro-chems. Typical microspheres were formed from 85:15 lactide-glycolide **copolymer** with av. mol. wt. 88,000 in the presence of PVA as the microsphere stabilizer, with .theta. = 90.degree..

IT **107043-88-9, N,O-Carboxymethylchitosan**
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manuf. of **polymeric** microspheres in aq. dispersions)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:655852 HCAPLUS
DOCUMENT NUMBER: 130:63236
TITLE: The preparation of crosslinked **N, O - carboxymethyl chitosan resins** and their adsorption properties for triglyceride in serum
AUTHOR(S): Yu, Yihau; He, Binglin; Gu, Hanqing
CORPORATE SOURCE: Institute of Polymer Chemistry, The State Key Laboratory of Functional, Nankai University, Tianjin, 300071, Peop. Rep. China
SOURCE: Chinese Journal of Reactive Polymers (1997), 6(1-2), 83-88
CODEN: CJRPEH; ISSN: 1004-7646

PUBLISHER: Nankai University, Institute of Polymer Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Crosslinked **N, O - carboxymethyl chitosan resins** which can selectively adsorb triglyceride, were prepd. by the reaction of **N, O - carboxymethyl chitosan** with glutaraldehyde soln. Adsorption expts. were performed by adding the **resins** to the serum. The results showed that this type of adsorbent could cut down the concn. of triglyceride in serum by 56.4% (3.35mg/g **resin**) at most, while concn. of the total protein (TP) decreased only by 10.9% at least, so this novel adsorbent can be used to cure hypertriglyceridemia by hemoperfusion in the future.
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 13 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:517657 HCAPLUS
DOCUMENT NUMBER: 129:250196
TITLE: Effects of **N,O-dicarboxymethyl chitosan** on phase behavior and morphological structure of chitosan/viscose rayon blends
AUTHOR(S): Guan, Yunlin; Liu, Xiaofei; Fu, Qiang; Li, Zhi; Yao, Kangde
CORPORATE SOURCE: Research Institute of Polymeric Materials, Tianjin University, Tianjin, 300072, Peop. Rep. China
SOURCE: Carbohydrate Polymers (1998), 36(1), 61-66
CODEN: CAPOD8; ISSN: 0144-8617
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The phase behavior of chitosan/viscose rayon blends was examd. by dynamic mechanic anal. (DMA) and DSC, and the morphol. was investigated by transmission electron microscope (TEM) and at. force microscope (AFM). Characterization of chitosan/viscose rayon blends by DMA and DSC anal. suggests partial miscibility of chitosan with viscose rayon. The phase behavior of the blends is influenced by the presence of **N, O-dicarboxymethyl chitosan**. Morphol. observations of the blends disclosed that chitosan microparticles are distributed over the viscose rayon phase, ranging in diams. of 0.1-2.5 .mu.m. The addn. of **N,O-carboxymethyl chitosan** into the blend can improve the compatibility of chitosan with viscose rayon.
IT **107043-88-9P, N,O-Dicarboxymethyl chitosan**
RL: POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(dicarboxymethyl chitosan effect on phase behavior and morphol. structure of chitosan/viscose rayon blends)
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:465347 HCAPLUS
DOCUMENT NUMBER: 129:190658
TITLE: Chitooligomers. I. Oligomers of N-carboxymethylchitosan and O-carboxymethylchitosan
AUTHOR(S): Nguyen, Thi Dong; Pham, Le Dung; Chu, Dinh Kinh

CORPORATE SOURCE: Inst. of Chem., National Center for Natural Science and Technol. of Vietnam, Vietnam
SOURCE: Tap Chi Hoa Hoc (1998), 36(1), 68-72
CODEN: TCHHDC; ISSN: 0378-2336
PUBLISHER: Toa Soan Tap Chi Hoa Hoc
DOCUMENT TYPE: Journal
LANGUAGE: Vietnamese
AB **N,O-carboxymethylchitosan** and N-carboxymethylchitosan were prepd. The oligomers with different degrees of **polymn.** and degrees of substitution were obtained by hydrolysis with 0.5 N HCl.
IT **107043-88-9DP, N,O-Carboxymethylchitosan,** oligomers
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and characterization of)

N/A

L7 ANSWER 15 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:257222 HCAPLUS
DOCUMENT NUMBER: 129:58745
TITLE: The preparation of crosslinked **N,O-carboxymethylchitosan resins** and their adsorption properties for triglyceride in serum
AUTHOR(S): Yu, Yihua; Gu, Hanqing; He, Binglin
CORPORATE SOURCE: Institute of Polymer Chemistry, Nankai University, Tianjin, 300071, Peop. Rep. China
SOURCE: International Conference on Biorelated Polymers Controlled Release Drugs and Reactive Polymers, Xi'an, Peop. Rep. China, May 8-11, 1997 (1997), 180-181. Nankai University, Institute of Polymer Chemistry: Tianjin, Peop. Rep. China.
CODEN: 65XOAU
DOCUMENT TYPE: Conference
LANGUAGE: English
AB **N,O-carboxymethylchitosan** (NOCMC) beads can adsorb triglycerides. Many factors influence the adsorption. Adsorption capacity decreases with increase in the vol. ratio of NOCMC to glutaraldehyde. The reason may be that triglycerides are bulky mols. and it is difficult for them to diffuse through the **resins.** Adsorption may take place only on the surface of the **resins.**
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

N/A

L7 ANSWER 16 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:97430 HCAPLUS
DOCUMENT NUMBER: 126:100711
TITLE: Negatively-charged chitosan derivative semiochemical delivery system
INVENTOR(S): Henderson, Susan Elizabeth; Curran, Dennis Thomas; Elson, Clive M.
PATENT ASSIGNEE(S): Chitogenics, Inc., USA
SOURCE: PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9639824	A1	19961219	WO 1996-US7250	19960520

W: CA, JP, MX
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

US	5645844	A	19970708	US 1995-483996	19950607
CA	2223618	AA	19961219	CA 1996-2223618	19960520

PRIORITY APPLN. INFO.: US 1995-483996 19950607

AB The invention is based on the discovery that neg. charged chitosan **polymers**, e.g., **N,O-carboxymethylchitosan** (U.S. Patent 4,619,995) have advantageous properties for use in a deliver system for releasing a volatile semiochem. at a sustained rate over an extended period of time, to attract a target insect. The invention may be used for monitoring a target insect by capture. Alternatively, the present invention may be used for the management of a target insect by disrupting mating patterns of such insects.

IT **107043-88-9, N,O-Carboxymethylchitosan**
RL: MOA (Modifier or additive use); USES (Uses)
(pheromone delivery system contg.)

L7 ANSWER 17 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:725353 HCAPLUS
DOCUMENT NUMBER: 126:51022
TITLE: Gel-forming system for use as wound dressings
INVENTOR(S): Fox, Adrian S.; Allen, Amy E.
PATENT ASSIGNEE(S): Nepera, Inc., USA
SOURCE: U.S., 8 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5578661	A	19961126	US 1994-221159	19940331

PRIORITY APPLN. INFO.: US 1994-221159 19940331

AB A gel-forming system comprising an aq. mixt. of a first component of at least one water-sol. **polymer** in an amt. sufficient to increase the initial viscosity of the mixt. and impart adhesion properties thereto; a second component of an acid-contg. **polymer**; a third component of an amino-contg. **polymer**; and water. This system has a pH 5.5-8.5 and the second and third components are each present in sufficient amts. which, in combination, increase the cohesiveness of the mixt. over time, such that the mixt. can be initially combined in a relatively fluid state and subsequently forms a cohesive gel structure. This system is useful as a wound dressing for deep wound cavities because the gel protects the wound and permits healing, does not interfere with new tissue growth or development, is capable of absorbing significant amts. of wound exudate, and has sufficient cohesive strength for subsequent removal from the cavity as an integral plug without interrupting the healing process. For example, a gel-forming compn. contained ethylene-maleic anhydride **copolymer** 0.5, **N,O-carboxymethyl chitosan** 2.5, PVP 10, polyethylene oxide 0.5, and NaOH 0.16 %.

IT **107043-88-9, N,O-Carboxymethylchitosan**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(gel-forming system for use as wound dressings)

L7 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:410636 HCAPLUS
DOCUMENT NUMBER: 125:67797
TITLE: Wound treatment composition

INVENTOR(S): Qin, Yimin; Gilding, Keith Dennis
PATENT ASSIGNEE(S): Innovative Technologies Limited, UK
SOURCE: PCT Int. Appl., 10 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9613284	A1	19960509	WO 1995-GB2542	19951030
W: AL, AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9537503	A1	19960523	AU 1995-37503	19951030

PRIORITY APPLN. INFO.: GB 1994-21969 19941028
WO 1995-GB2542 19951030

AB A compn. for use in treating a wound, e.g. cavity wounds, comprises a hydrogel contg. O-carboxymethyl chitosan or **N,O-carboxymethyl chitosan** and a **plasticizing** compd.

IT **107043-88-9**
RL: PEP (Physical, engineering or chemical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(wound treatment compn.)

L7 ANSWER 19 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:369827 HCAPLUS
DOCUMENT NUMBER: 125:35743
TITLE: Modified alginate fibers for wound dressings with improved absorbancy
INVENTOR(S): Qin, Yimin; Gilding, Keith Dennis
PATENT ASSIGNEE(S): Innovative Technologies Limited, UK
SOURCE: PCT Int. Appl., 12 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9610106	A1	19960404	WO 1995-GB2284	19950926
W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM				
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9535306	A1	19960419	AU 1995-35306	19950926
GB 2307687	A1	19970604	GB 1997-6596	19950926
GB 2307687	B2	19990310		
EP 783605	A1	19970716	EP 1995-932127	19950926
R: BE, DE, DK, ES, FR, GB, IT, LU, NL, SE				

JP 10506442	T2	19980623	JP 1995-511498		19950926
US 6080420	A	20000627	US 1997-809686		19970630
PRIORITY APPLN. INFO.:			GB 1994-19572	A	19940929
			GB 1995-1514	A	19950126
			GB 1995-16930	A	19950818
			WO 1995-GB2284	W	19950926

AB The title fibers are prepd. by spinning aq. solns. contg. 70-95:5-30 (wt. ratio) mixts. of alginates and water-sol. nonalginate **polymers** [e.g., polysaccharides, poly(carboxyamino acids), poly(acrylic acid), poly(methacrylic acid) or salts thereof] into a coagulating bath. An aq dope contg. Na alginate (Protanal LF 10/62) 12, CM-cellulose 1.5, and high-methyloxy pectin 1.5 kg was spun at 12 m/min, taken up at 7.2 m/min, drawn 80.degree., washed, dried, crimped, and cut to give staple fibers suitable for nonwoven wound dressings.

IT **107043-88-9, N,O-Carboxymethylchitosan**
RL: BUU (Biological use, unclassified); POF (Polymer in formulation); PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(blends with alginates, fiber; manuf. for wound dressings with improved absorbancy)

L7 ANSWER 20 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1994:417814 HCAPLUS
DOCUMENT NUMBER: 121:17814
TITLE: Targeting polysaccharide-methotrexate conjugates to the rat brain
AUTHOR(S): Sanzgiri, Yeshwant D.; Blanton, C. Dewitt, Jr.; Gallo, James M.
CORPORATE SOURCE: Coll. Pharm., Univ. Georgia, Athens, GA, 30602, USA
SOURCE: Polymers for Advanced Technologies (1992), 3(6), 317-21
CODEN: PADTE5; ISSN: 1042-7147
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Delivery of drugs to brain tumors is difficult due to the impermeability, and variable nature of the blood/tumor barrier. Of the various strategies designed to improve drug uptake intracellularly and into the brain, cationic carriers seem to offer an advantage. In the current investigation cationic polysaccharide-methotrexate conjugates were examd. in the rat. Conjugates were prepd. from **N,O-carboxymethyl chitosan** (NOCC) and 3H-methotrexate (MTX) by two different synthetic schemes, resulting in NOCCMTX-1 and NOCCMTX-2. NOCCMTX-1 appeared to have a higher degree cross-**polymn.** than NOCCMTX-2. Each conjugate and free MTX were administered intra-arterially in a retrograde manner in the external carotid artery at a MTX dose of 1 mg/kg as a const. rate infusion over 30 min. Animals were sacrificed at various times after administration, and blood tissue samples collected, processed in a sample oxidizer, and then measured for radioactivity. Brain MTX concns. were 18- and 12-fold greater at 15 min and 3 h, resp., following NOCCMTX-1 administration compared to free MTX treatment. However, NOCCMTX-1 resulted in animal death at about 12 h after administration. NOCMTX-2 was found to be non-toxic, yet did not increase brain MTX concns. compared to free drug administrations after correction for MTX in residual blood. Further investigations are planned to combine the pos. drug targeting effect of NOCCMTX-1 with the safety of NOCCMTX-2.

L7 ANSWER 21 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:84201 HCAPLUS
DOCUMENT NUMBER: 114:84201
TITLE: Chitosan carboxymethyl derivative and preparative method therefor

INVENTOR(S): Hayes, Ernest R.
PATENT ASSIGNEE(S): Nova Chem Ltd., Can.
SOURCE: Can., 28 pp.
CODEN: CAXXA4
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 1274507	A1	19900925	CA 1984-469968	19841212

PRIORITY APPLN. INFO.: CA 1984-469968 19841212

AB Chitosan with carboxymethyl groups substituted through free hydroxyl O and glucosamine N atoms is prepd. The prepn. includes dispersing solid chitosan in iso-PrOH, BuOH, iso-BuOH, MEK, PhMe, and 0-28:72-100 EtOH-PhMe to form a slurry, steeping the chitosan with strong aq. NaOH soln. in a NaOH-glucosamine molar ratio 3-8:1 with stirring for 0.5-1 h, and carboxylating with ClCH2COOH (I) in an I-NaOH molar ratio 1:1.8-2.2 at 40-70.degree.. In this manner, a **N,O-carboxymethyl chitosan** was prepd. and a film was formed from which showed permselectivity to gases, and was useful for preserving fruits, vegetables, and eggs.

IT **107043-88-9**
RL: USES (Uses)
(films, prepn. of permselective)

L7 ANSWER 22 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:456927 HCAPLUS
DOCUMENT NUMBER: 109:56927
TITLE: Novel chitosan derivative its preparation and **polymer** films produced therefrom
INVENTOR(S): Hayes, Ernest R.
PATENT ASSIGNEE(S): Nova Chem Ltd., Can.
SOURCE: Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 265561	A1	19880504	EP 1986-308338	19861027
EP 265561	B1	19890426		

R: DE, FR, GB, IT, NL

PRIORITY APPLN. INFO.: EP 1986-308338 19861027

AB Film forming CM-chitosan (I) with the degree of substitution (DS) .ltoreq.1 is prepd. by first treating chitosan slurries in org. solvents with 3-8 M NaOH/mol glucosamine unit for 0.1-1 h and then treating the product with 1.8-2.2 mol monochloroacetic acid per mol NaOH for 2-12 h at 40-70.degree.. Films of I are useful for preservation of fruits and vegetables and plugging gas well drilling sites. Thus, 50.4 mL 10 N NaOH was added to a stirred slurry contg. 20.0 g chitosan in 200 mL iso-PrOH at 25.degree. over 20 min, and the mixt. was stirred 45 min, then stirred 3 h at 60.degree. after adding 24.0 g monochloroacetic acid over 20 min, filtered, washed, and dried to give 30.0 g film-forming I with DS 0.4-0.8.

IT **107043-88-9P**
RL: PREP (Preparation)
(manuf. of film-forming, with low degree of substitution)

L7 ANSWER 23 OF 23 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1988:408307 HCAPLUS
DOCUMENT NUMBER: 109:8307
TITLE: Carboxymethylated chitins and chitosans
AUTHOR(S): Muzzarelli, Riccardo A. A.
CORPORATE SOURCE: Fac. Med., Univ. Ancona, Ancona, I-60020, Italy
SOURCE: Carbohydrate Polymers (1988), 8(1), 1-21
CODEN: CAPOD8; ISSN: 0144-8617
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 64 refs. The carboxymethylation procedures developed to impart amphoteric properties to chitosan make use of ClCH2CO2H and of glyoxylic acid for the prepn. of O-carboxymethyl and N-carboxymethyl chitosans, resp. Carboxymethyl chitin and **N,O-carboxymethyl chitosans** are also synthesized. These water-sol. modified **biopolymers** find uses as medical aids, cosmetic ingredients, and chelating agents.

IT **107043-88-9P**
RL: PREP (Preparation)
(prepn. and properties and uses of)

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-14.97

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=> d que stat l9
L1             1 SEA FILE=REGISTRY ABB=ON  "N,O-CARBOXYMETHYLCHITOSAN"/CN
L2            67 SEA FILE=HCAPLUS ABB=ON  L1 OR N(W)O(W)(?CARBOXYMETHYLCHITOSAN?
                  OR ?CARBOXYMETHYL?(W)?CHITOSAN?)
L4             1 SEA FILE=REGISTRY ABB=ON  RUBBER/CN
L5             1 SEA FILE=REGISTRY ABB=ON  "FIBRIN SEALANT"/CN
L6       2680263 SEA FILE=HCAPLUS ABB=ON  L4 OR L5 OR ?RUBBER? OR ?PLASTIC? OR
                  ?RESIN? OR ?POLYMER? OR (?TISSUE? OR ?FIBRIN?)(W)(?SEALANT OR
                  ?GLUE?)
L7            23 SEA FILE=HCAPLUS ABB=ON  L2 AND L6
L8            11 SEA L7
L9             9 DUP REMOV L8 (2 DUPLICATES REMOVED)

=> d ibib abs l9 1-9

L9   ANSWER 1 OF 9  WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER:     2003-210071 [20]   WPIDS
DOC. NO. CPI:         C2003-053456
TITLE:                Composition useful in treating ocular allergic condition
                      e.g. seasonal allergic conjunctivitis, comprises
                      ophthalmic drug (particularly ketotifen hydrogen
                      fumarate), polymer (containing chitosan) and
                      carrier.
DERWENT CLASS:        A11 A96 B02
INVENTOR(S):          MINICK, K; SOU, M; WONG, M; YEN, S; BIZEC, J; MINICK, K
                      J; WONG, M P
PATENT ASSIGNEE(S):   (MINI-I) MINICK K; (SOUM-I) SOU M; (WONG-I) WONG M;
                      (YENS-I) YEN S; (NOVS) NOVARTIS AG; (NOVS)
                      NOVARTIS-ERFINDUNGEN VERW GES MBH
COUNTRY COUNT:        87
PATENT INFORMATION:

     PATENT NO   KIND DATE     WEEK      LA   PG
     ------------------------------------------
     WO 2002100376 A1 20021219 (200320)* EN   14
       RW: AT BE CH CY DE DK EA ES FI FR GB GR IE IT LU MC NL PT SE TR
        W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
           DM DZ EC EE ES FI GB GD GE GH HR HU ID IL IN IS JP KE KG KP KR KZ
           LC LK LT LU LV MA MD MK MN MX NO NZ OM PH PL PT RO RU SE SG SI SK
           TJ TM TN TR TT UA US UZ VN YU ZA ZW
     US 2003031718 A1 20030213 (200320)

APPLICATION DETAILS:

     PATENT NO   KIND                    APPLICATION      DATE
     ------------------------------------------------------------
     WO 2002100376 A1                    WO 2002-EP6280   20020607
     US 2003031718 A1 Provisional        US 2001-297068P  20010608
                                         US 2002-164756   20020607


PRIORITY APPLN. INFO: US 2001-297068P  20010608; US 2002-164756
                      20020607
AN   2003-210071 [20]   WPIDS
AB   WO2002100376 A UPAB: 20030324
     NOVELTY - A composition comprises:
          (a) an ophthalmic drug;
          (b) a polymer comprising chitosan; and
     (c) a carrier.
          ACTIVITY - Ophthalmological.
```

MECHANISM OF ACTION - None given.

USE - For treating and/or preventing an ocular allergic condition (such as allergic conjunctivitis, seasonal allergic conjunctivitis and allergic condition treatable by ketotifen therapy) in a patient e.g. mammal and human (claimed).

ADVANTAGE - The formulation provides good ocular tolerability and an excellent reproducibility. The composition produces highly reliable and more reproducible clinical result in a patient.

Dwg.0/0

L9 ANSWER 2 OF 9 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2002-241173 [29] WPIDS

DOC. NO. CPI: C2002-072443

TITLE: New immunogen composition comprising an antigen, a biocompatible **polymer** and a liquid vehicle, useful for e.g. stimulating an immune response both systemically and mucosally, or for altering reproductive cycle of the host.

DERWENT CLASS: A25 A96 B04 B07 D16

INVENTOR(S): BLONDER, J P; COESHOTT, C M; RODELL, T C; ROSENTHAL, G J; SCHAUER, W H

PATENT ASSIGNEE(S): (BLON-I) BLONDER J P; (COES-I) COESHOTT C M; (RODE-I) RODELL T C; (ROSE-I) ROSENTHAL G J; (SCHA-I) SCHAUER W H; (RXKI-N) RXKINETIX INC

COUNTRY COUNT: 96

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001098206	A1	20011227	(200229)*	EN	67
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
US 2002025326	A1	20020228	(200229)		
AU 2001076831	A	20020102	(200230)		
EP 1315672	A1	20030604	(200337)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 2001098206	A1		WO 2001-US20096	20010622
US 2002025326	A1	CIP of	US 2000-602654	20000622
		Provisional	US 2001-278267P	20010323
			US 2001-888235	20010622
AU 2001076831	A		AU 2001-76831	20010622
EP 1315672	A1		EP 2001-954595	20010622
			WO 2001-US20096	20010622

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001076831	A	Based on	WO 200198206
EP 1315672	A1	Based on	WO 200198206

PRIORITY APPLN. INFO: US 2001-278267P 20010323; US 2000-602654 20000622; US 2001-888235 20010622

AN 2002-241173 [29] WPIDS

AB WO 200198206 A UPAB: 20020508

NOVELTY - A new immunogen composition for stimulating an immune response when administered to a host, comprising an antigen, a biocompatible **polymer** and a liquid vehicle, where the **polymer** interacts with the liquid vehicle to impart reverse thermal viscosity behavior to the composition, so that the viscosity of the composition increases when the temperature of the composition increases at a temperature range.

DETAILED DESCRIPTION - A new immunogen composition for stimulating an immune response when administered to a host, comprising an antigen, a biocompatible **polymer** and a liquid vehicle, where the **polymer** interacts with the liquid vehicle to impart reverse thermal viscosity behavior to the composition, so that the viscosity of the composition increases when the temperature of the composition increases at a temperature range. The composition further comprises an additive enhancing the immune response selected from a penetration enhancer and/or an adjuvant.

INDEPENDENT CLAIMS are also included for the following:

(1) delivery vehicle compositions (DC1) comprising a drug in an amount to produce a desired biological response in a host, a reverse-thermal gelation biocompatible **polymer**, a liquid vehicle in which the **polymer** is at least partially soluble at some temperature, and an additive selected from a penetration enhancer and/or an adjuvant;

(2) methods of packaging and storing the immunogen compositions;

(3) a method for delivering a drug to a host by administering a delivery vehicle composition comprising a drug, a reverse thermal gelation biocompatible **polymer**, liquid vehicle in which the **polymer** is at least partially soluble at some temperature, and an additive; and

(4) a method for delivering an antigen to a host to stimulate an immune response.

ACTIVITY - Immunostimulant; Antibacterial.

The IgG antibody response to intranasal immunization at week 0 followed by booster immunization at weeks 1 and 3. The IgG anti-TT responses of mice immunized and boosted with TT in PBS, TT in F127/chitosan and TT in F127/LPC were compared. Results of these studies indicate that the animals treated i.n. with TT in PBS failed to generate a significant anti-TT immune response, with a geometric mean titer of 159.6. The group immunized with TT in F127/LPC had a measurable nti-TT IgG response with a geometric mean titer of 544. The group immunized with TT in F127/chitosan clearly demonstrated a significant systemic anti-TT IgG response with a geometric mean titer of more than 5000. Studies indicate that intranasal immunization with TT in F127/chitosan induces a significant systemic IgG anti-TT antibody response.

MECHANISM OF ACTION - None given in source material.

USE - The composition is useful for stimulating an immune response both systemically and mucosally, for delivering an antigen (or drugs) to a host to treat or prevent an infectious disease, for altering mammalian reproductive cycle, for reducing or eliminating degradation of the antigen and lowing for a relatively slow sustained administration of antigens to the host.

Dwg.0/12

L9 ANSWER 3 OF 9 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2001-256352 [26] WPIDS

CROSS REFERENCE: 1992-216795 [26]; 1994-302683 [37]; 1996-300272 [30]; 1997-087008 [08]; 2000-618127 [54]
DOC. NO. NON-CPI: N2001-182713
DOC. NO. CPI: C2001-077142
TITLE: Localized sustained delivery of supplements to promote (re)generation of bone and/or cartilage by preparing and applying biocompatible supplemented **tissue sealant** composition.
DERWENT CLASS: B04 B07 D22 P32
INVENTOR(S): DROHAN, W N; HAUDENSCHILD, C; LASA, C I; LIAU, G; MACPHEE, M J
PATENT ASSIGNEE(S): (AMNA-N) AMERICAN NAT RED CROSS
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6197325	B1	20010306	(200126)*		79

Duplicate

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 6197325	B1	CIP of	US 1990-618419	19901127
		CIP of	US 1991-798919	19911127
		Cont of	US 1993-31164	19930312
		CIP of	US 1994-328552	19941025
		CIP of	US 1994-351006	19941207
			US 1995-474084	19950607

PRIORITY APPLN. INFO: US 1995-474084 19950607; US 1990-618419 19901127; US 1991-798919 19911127; US 1993-31164 19930312; US 1994-328552 19941025; US 1994-351006 19941207

AN 2001-256352 [26] WPIDS
CR 1992-216795 [26]; 1994-302683 [37]; 1996-300272 [30]; 1997-087008 [08]; 2000-618127 [54]
AB US 6197325 B UPAB: 20011121
NOVELTY - Localized sustained delivery of supplements to promote (re)generation of bone and/or cartilage for longer than according to simple diffusion kinetics comprises preparing a biocompatible supplemented **tissue sealant** composition and applying it to a site needing newly formed bone and/or cartilage under conditions suitable for inducing formation of a fibrin matrix.

DETAILED DESCRIPTION - Localized sustained delivery of supplements to promote generation or regeneration of bone and/or cartilage comprises:

(a) preparing a biocompatible supplemented **tissue sealant** composition comprising supplement(s) comprising cytotoxin or cell proliferation inhibiting compound, osteogenic compound, osteoconductive compound, cartilage inducing compound, oligonucleotide, polynucleotide, a compound that inhibits the differentiation cells involved in the formation or metabolism of bone, a compound that induces the differentiation of cells involved in the formation or metabolism of bone and/or a compound that prevents resorption of bone in amount(s) that promote generation or regeneration of bone and/or cartilage and fibrinogen or its derivatives or metabolites comprising fibrin I and II in amounts that form a fibrin matrix in the presence of thrombin and calcium (II) ions and water and

(b) applying the composition to a site needing newly formed bone

and/or cartilage under conditions suitable for inducing formation of a fibrin matrix, which provides a scaffold that determines the shape and location of the newly formed bone and/or cartilage. The amount of supplement is greater than the amount that is soluble in the fibrin matrix and the sustained delivery is for a period greater than the period obtained according to simple diffusion kinetics.

ACTIVITY - Osteopathic; vulnerary.

MECHANISM OF ACTION - Cell proliferation inhibitor; cartilage inducer; fibroblast growth factor; platelet-derived growth factor; insulin-binding growth factor; epidermal growth factor; transforming growth factor; bone growth factor; bone morphogenetic growth factor; collagen growth factor; heparin-binding growth factor; cartilage-inducing factor; osteoid-inducing factor.

USE - Used for localized sustained delivery of supplements to promote (re)generation of bone and/or cartilage (claimed), promote wound healing, promote the endothelialization of vascular prostheses, promote the proliferation and/or differentiation of animal cells and promote the localized delivery of drug(s) or growth factors. The method can be used to provide a simple-to-use, fast-acting, field-ready fibrin bandage for applying a tissue sealing composition to wounded tissue.

ADVANTAGE - The method provides sustained delivery for periods longer than those obtained according to simple diffusion kinetics. The sealants used do not inhibit full thickness skin wound healing and have many of the characteristics of an ideal biodegradable carrier, so that they can be formulated to contain only human proteins thus eliminating or minimizing immunogenicity probes and foreign body reactions, their administration is versatile, and their removal from host tissues is not required because they are degraded by the host's own natural fibrinolytic system. The method allows effective delivery of growth factors and/or drugs for prolonged periods of time to internal or external wounds, allowing prolonged contact between the growth factor and its receptors, and the production of strong biological effects. Animal cells can migrate into and through, and grow in the tissue sealants to aid engraftment of the cells to neighboring tissues and prostheses. Because of the initial liquid nature, the sealants can cover surfaces more thoroughly and completely than many prior art delivery systems, an advantage for coating biomaterials and in the endothelialization of vascular prostheses. The sealants can be molded and thus can be made into desired shapes. Antibiotic supplements increase the longevity and long-term stability of **fibrin glues**, allowing localized, long-term delivery of drug and/or growth factors, even after the stabilizing drug has substantially left the sealant. The method allows site-directed angiogenesis to incur in vivo promoted by the sealant. The method uses sealant components that can be formulated into simple-to-use, fast-acting field dressings, making it possible to control bleeding from hemorrhaging trauma wounds increase the number of lives saved and providing easy-to-use first-aid treatments that will, in emergency or disaster situations, allowing untrained individuals to treat traumatic injuries to control hemorrhage until medical assistance is available.

Dwg.0/42

L9 ANSWER 4 OF 9 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2001-236690 [25] WPIDS

DOC. NO. CPI: C2001-071146

TITLE: Oxidation color for keratinous fibers, especially human hair, contains oxidation colorant, oxido-reductase enzyme, chitosan salt or chemically modified chitosan with carboxyalkyl and/or carboxyacyl groups.

DERWENT CLASS: A96 D16 D21 E19 E24

INVENTOR(S): LAGRANGE, A; PLOS, G

PATENT ASSIGNEE(S): (OREA) L'OREAL SA
COUNTRY COUNT: 31
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 1062937	A1	20001227	(200125)*	FR	18
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
AU 2000034027	A	20010215	(200125)		
BR 2000001824	A	20010206	(200125)		
CA 2311277	A1	20001221	(200125)	FR	
CN 1278427	A	20010103	(200125)		
FR 2794972	A1	20001222	(200125)		
JP 2001010940	A	20010116	(200125)		13
KR 2001007471	A	20010126	(200152)		
AU 749793	B	20020704	(200255)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 1062937	A1	EP 2000-401166	20000427
AU 2000034027	A	AU 2000-34027	20000510
BR 2000001824	A	BR 2000-1824	20000518
CA 2311277	A1	CA 2000-2311277	20000609
CN 1278427	A	CN 2000-118697	20000620
FR 2794972	A1	FR 1999-7828	19990621
JP 2001010940	A	JP 2000-187024	20000621
KR 2001007471	A	KR 2000-34209	20000621
AU 749793	B	AU 2000-34027	20000510

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 749793	B	Previous Publ.	AU 200034027

PRIORITY APPLN. INFO: FR 1999-7828 19990621
AN 2001-236690 [25] WPIDS
AB EP 1062937 A UPAB: 20010508
NOVELTY - Ready-to-use oxidation color for keratinous fibers, especially human hair, contains:

(a) oxidation colorant(s),

(b) oxido-reductase enzyme(s) with 2 or 4 electrons and

(c) chitosan salt(s) with an organic or mineral acid, giving a visibly limpid 1% aqueous solution or a chemically modified chitosan containing unit(s) (I), with carboxyalkyl and/or carboxyacyl group(s), in a suitable vehicle.

DETAILED DESCRIPTION - The chemically modified chitosan contains unit(s) of formula (I), with carboxyalkyl and/or carboxyacyl group(s), in a suitable vehicle.

R1, R2 = hydrogen (H) and/or -XCOOM;

R3 = H, acetyl (-COCH3) or -CO-X-COOM;

X = linear or branched 1-8 carbon (C) alkylene, optionally with hydroxyl, halogen or epoxy substituent(s);

M = H or an alkali(ne earth), ammonium or organic amine or alkanolamine cation,

with at least one unit of formula(I) ,

R1 and/or R2 and/or R3 = -XCOOM; and/or

R3 = CO-X-COOM.

INDEPENDENT CLAIMS are also included for:

(a) the coloring method using this composition; and

(b) an appliance with 2 compartments containing (A) the colorant and (B) enzyme(s), with chitosan salt(s) or modified chitosan in one or both compartments.

USE - The product is an oxidation color for keratinous fibers, especially human hair (claimed).

ADVANTAGE - Oxidation coloring is normally carried out in alkaline medium in the presence of hydrogen peroxide but this damages the hair, although other oxidants can be used. If laccases (4 electrons) are used, degradation is avoided but the color is not intensive enough. Better results are obtained by also adding a chitosan salt or chemically modified chitosan, which also ensures better maintenance of the enzyme activity. Dwg.0/0

L9 ANSWER 5 OF 9 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2000-096810 [08] WPIDS
DOC. NO. CPI: C2000-028047
TITLE: Preparation of microspheres used for delivery of bioactive agents, as a means of radio-imaging tissue and for delivery of agrochemicals.
DERWENT CLASS: A18 A28 A32 A96 A97 B07 C07
INVENTOR(S): AMSDEN, B G; LIGGINS, R T
PATENT ASSIGNEE(S): (ANGI-N) ANGIOTECH PHARM INC
COUNTRY COUNT: 86
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9957176	A1	19991111	(200008)*	EN	52
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
AU 9935140	A	19991123	(200016)		
US 6224794	B1	20010501	(200126)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9957176	A1		WO 1999-CA367	19990506
AU 9935140	A		AU 1999-35140	19990506
US 6224794	B1	Provisional	US 1998-84508P	19980506
			US 1999-305857	19990505

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9935140	A	Based on	WO 9957176

PRIORITY APPLN. INFO: US 1998-84508P 19980506; US 1999-305857 19990505

AN 2000-096810 [08] WPIDS

AB WO 9957176 A UPAB: 20000215

NOVELTY - Preparation of microspheres comprises passing a first fluid

composition comprising a **polymer** and a solvent through an orifice and directly into a second fluid composition comprising water and a microsphere-stabilizing agent, under one of two conditions.

DETAILED DESCRIPTION - Preparation of microspheres comprises passing a first fluid composition comprising a **polymer** and a solvent through an orifice and directly into a second fluid composition comprising water and a microsphere-stabilizing agent, under at least one of conditions (a) and (b):

(a) the first composition flows through a first conduit along a first path and exits the first conduit at the orifice, the second composition flows through a second conduit along a second path in an upstream to downstream direction, the first conduit is connected to the second and terminates at the orifice, the first and second paths being orientated at an angle between 0 and 180 deg. relative to each other;

(b) the first composition being at a first temperature and the second composition at a second temperature wherein the boiling point of the solvent of the first composition is less than or near the second temperature; and forming a composition comprising water and microspheres, the microspheres comprising the **polymer**.

USE - The microspheres are suitable for use in the delivery of bioactive agents for animal aquarian and human use, as a means of radio-imaging tissue and for the controlled release of agrochemicals.

ADVANTAGE - The method provides a means for preparation of **polymeric** microspheres with control over the average particle size and particle size distribution.

Dwg.0/10

L9 ANSWER 6 OF 9 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1996-239277 [24] WPIDS
DOC. NO. NON-CPI: N1996-200296
DOC. NO. CPI: C1996-076334
TITLE: Compsn. for treating wounds, e.g. cavity wounds such as decubitus ulcers - comprises hydrogel contg. oxygen or nitrogen,O-carboxymethyl chitosan and a **plasticiser** cpd..
DERWENT CLASS: A96 B07 D22 P34
INVENTOR(S): GILDING, K D; QIN, Y
PATENT ASSIGNEE(S): (INNO-N) INNOVATIVE TECHNOLOGIES LTD
COUNTRY COUNT: 67
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9613284	A1	19960509	(199624)*	EN	11
RW: AT BE CH DE DK ES FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG					
W: AL AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA UG US UZ VN					
AU 9537503	A	19960523	(199635)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9613284	A1	WO 1995-GB2542	19951030
AU 9537503	A	AU 1995-37503	19951030

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9537503	A	Based on	WO 9613284

PRIORITY APPLN. INFO: GB 1994-21969 19941028
AN 1996-239277 [24] WPIDS
AB WO 9613284 A UPAB: 19960618
Compsn. for treating a wound comprises a hydrogel contg. O-carboxymethyl chitosan (OCC) or **N,O-carboxymethyl chitosan** (NOCC) and a **plasticising** cpd.
Also claimed is the combination of the compsn. with a film having a high MVTR capability.
USE - The compsn. is useful for treating wounds, esp. cavity wounds such as decubitus ulcers, and for treating sinuses.
Dwg.0/0

L9 ANSWER 7 OF 9 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 97080891 MEDLINE
DOCUMENT NUMBER: 97080891 PubMed ID: 8922226
TITLE: The chemical modification of E. coli L-asparaginase by **N,O-carboxymethyl chitosan.**
AUTHOR: Qian G; Zhou J; Ma J; Wang D; He B
CORPORATE SOURCE: State Key Laboratory of Functional Polymers for Adsorption and Separation, Institute of Polymer Chemistry, Nankai University, Tianjin, P.R. China.
SOURCE: ARTIFICIAL CELLS, BLOOD SUBSTITUTES, AND IMMOBILIZATION BIOTECHNOLOGY, (1996 Nov) 24 (6) 567-77.
Journal code: 9431307. ISSN: 1073-1199.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199703
ENTRY DATE: Entered STN: 19970313
Last Updated on STN: 19970313
Entered Medline: 19970304
AB E. coli L-asparaginase was modified with **N,O-carboxymethyl chitosan** in the presence of normal product L-aspartic acid, which protected the active site of the enzyme. The modified enzyme remained high catalytic activity, showed greater stability against trypsin and alpha-chymotrypsin, but lost its activity more rapidly at high temperature (> 45 degrees C) than did the native enzyme. When tested in vivo, the plasma half-life of the modified enzyme (t1/2 = 40 hr) was over 33 times longer than that of the native enzyme (t1/2 = 1.6 hr). The results showed that the modified L-asparaginase may be much more useful than did the native enzyme for clinical treatments of tumors.

L9 ANSWER 8 OF 9 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1995-178191 [23] WPIDS
DOC. NO. CPI: C1995-082546
TITLE: N,O-carboxymethyl chitosonium carboxylate salts - which form high viscosity solns at low concns..
DERWENT CLASS: A11 A96 D21
INVENTOR(S): CURRAN, D T; ELSON, C M; HENDERSON, S E
PATENT ASSIGNEE(S): (NOVA-N) NOVA CHEM LTD; (CHIT-N) CHITOGENICS INC
COUNTRY COUNT: 20
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG

US 5412084	A	19950502 (199523)*	8
WO 9620221	A1	19960704 (199632)# EN	18
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE			
W: AU CA JP			
AU 9518302	A	19960719 (199647)#	
JP 10511719	W	19981110 (199904)#	22

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 5412084	A	Cont of	US 1991-772405	19911009
			US 1993-9083	19930126
WO 9620221	A1		WO 1994-US14879	19941228
AU 9518302	A		WO 1994-US14879	19941228
			AU 1995-18302	19941228
JP 10511719	W		WO 1994-US14879	19941228
			JP 1996-520419	19941228

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9518302	A	Based on	WO 9620221
JP 10511719	W	Based on	WO 9620221

PRIORITY APPLN. INFO: US 1991-772405 19911009; US 1993-9083 19930126; WO 1994-US14879 19941228; AU 1995-18302 19941228; JP 1996-520419 19941228

AN 1995-178191 [23] WPIDS

AB US 5412084 A UPAB: 19950619

N,O-carboxymethyl-chitosonium carboxylate salts, in which 20-25% of the nitrogen atoms of the **N,O-carboxymethyl chitosan** in the **polymer** chain have carboxymethyl substits, are new.

The salts may be prepd by a claimed process comprising (a) suspending carboxymethyl chitosan, in particulate form, in an organic diluent-water mixt which does not dissolve nor render the suspended particles adherent, glutinous, gummy or sticky; (b) lowering the pH of the suspension below 7 by adding 0.2-0.8 moles of carboxylic acid (per mole of carboxymethyl chitosan monomer units), dissolved in water and/or an organic solvent, while adjusting the proportion of water in the suspension to (i) maintain the suspended particles separate and discrete and (ii) maintain the acid in soln; (c) stirring the heterogeneous suspension for 1 hr at room temp; (d) separating the solid particles from the suspension; (e) washing the solid particles with anhydrous alcohol to remove residual water, unreacted carboxylic acid and diluent; and (f) recovering and drying the desired prod.

USE - The salts may be used in cosmetics (eg sunscreen formulations) and other unspecified areas.

ADVANTAGE - The salts are white and form clear, colourless, odourless solns of high viscosity at low concns (eg 0.5% solns are gels).

Dwg.0/0

L9 ANSWER 9 OF 9 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 1994-118932 [15] WPIDS

DOC. NO. CPI: C1994-055047

TITLE: Method of reducing cavitation around underwater acoustic projector - comprises encapsulating it with aq. gel

comprising polysaccharide **polymer**, hydrophilic stabiliser and biocide and curing gel.

DERWENT CLASS: A85
INVENTOR(S): CURRAN, D T; ELSON, C M; FANNING, B L
PATENT ASSIGNEE(S): (MIND) CANADA MIN NAT DEFENCE
COUNTRY COUNT: 2
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
CA 2074424	A	19940123	(199415)*		14
US 5382286	A	19950117	(199509)		4

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
CA 2074424	A	CA 1992-2074424	19920722
US 5382286	A	US 1993-91297	19930715

PRIORITY APPLN. INFO: CA 1992-2074424 19920722
AN 1994-118932 [15] WPIDS
AB CA 2074424 A UPAB: 19940531
A method of reducing cavitation around an underwater acoustic projector comprises encapsulating the projector with an aq. gel comprising a polysaccharide **polymer**, a hydrophilic stabiliser and a non-gel inhibiting and soluble biocide; and curing the gel.

Also claimed is an aq. **polymeric** gel as above comprising 0.5-1.0 wt.% polysaccharide **polymer** crosslinked with 5-25 wt.% hydrophilic stabiliser selected from ethylene glycol and glycol, and contg. 0.024-0.48 wt.% of a crosslinking agent and 1 ppm of a non-gel inhibiting and gel-soluble biocide.

The polysaccharide **polymer** is a chitan, pref. chitosan (RTM). The hydrophilic stabiliser is ethylene glycol or glycerol. The biocide is a quaternary ammonium salt.

ADVANTAGE - The aq. gel is more resistant to cavitation than water and so sonar projectors can be operated at high power levels in shallow water.

Dwg.0/0

ABEQ US 5382286 A UPAB: 19950306
Aq. **polymeric** gel for coating underwater acoustic projectors, comprises: 0.5-1.0 wt.%, pref. 0.85 wt.%, of a chitosan cpd. (I) crosslinked with 5-25 wt.%, pref. 15 wt.%, of a hydrophilic stabiliser from ethylene glycol and glycerol, and contg. 0.024-0.48 wt.%, pref. 0.048 wt.%, of a crosslinking agent, pref. glyoxal, and 1 ppm of a non-gel inhibiting and gel-sol. biocide, pref. quat. ammonium salt.

Pref. (I) is **N,O-carboxymethylchitosan**.

USE/ADVANTAGE - Reducing cavitation around underwater acoustic projectors. Sonar projectors can be operated at high power.

Dwg.0/0